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DEPARTMENT OF TRANSPORTATION

Federal Transit Administration

Discretionary Funding Opportunity: Zero Emission Research Opportunity

AGENCY: Federal Transit Administration (FTA), DOT.

ACTION: Notice of Funding Opportunity (NOFO) and Request for Proposals (RFP)

SUMMARY: This competitive solicitation is for the Zero Emission Research Opportunity (ZERO), administered by the Federal Transit Administration. Available funding is \$2.75 million in FTA research funds and this solicitation also will establish eligibility for possible future funding, subject to Congressional appropriations and FTA funding approval, for ZERO. The purpose of the program is to facilitate the advancement, production, and deployment of zero emission public transportation vehicle technology and related infrastructure. FTA intends to select, and enter into cooperative agreements with, multiple (up to 3) nonprofit consortia to continue building on past research innovation and development efforts to facilitate the deployment of zero emission vehicles and associated advanced technology. Eligibility for future ZERO funding opportunities in fiscal years 2017-2020 will be limited to those nonprofit consortia selected under this fiscal year 2017 notice. Potential research partners such as transit agencies, other nonprofits, vendors, suppliers and systems integrators may work with multiple consortia. The Federal cost share of a project carried out under ZERO shall not exceed 80 percent.

DATES: Complete proposals must be submitted electronically through the GRANTS.GOV “APPLY” function by 11:59 EST on [INSERT DATE 90 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER]. Prospective applicants

should initiate the process by registering on the GRANTS.GOV website promptly to ensure completion of the application process before the submission deadline. This announcement is also available at FTA's website at:

<https://www.transit.dot.gov/funding/grants/notices> and in the "FIND" module of GRANTS.GOV. The funding opportunity ID is FTA-2016-009-TRI-ZERO and the Catalog of Federal Domestic Assistance (CFDA) number for Section 5312 is 20.514. Mail and fax submissions will not be accepted.

FOR FURTHER INFORMATION CONTACT: Sean Ricketson, FTA Office of Research Demonstration and Innovation, (202) 366-6678 or ZERO.FTA@dot.gov. A TDD is available for individuals who are deaf or hard of hearing at 1-800-877-8339.

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A. Program Description

1. Background

Advances in technology are enabling substantial changes in vehicle propulsion, transportation operations, and transportation service delivery. These changes are creating opportunities for our nation's transportation system to deliver higher levels of service at lower cost and with fewer externalities, benefitting all Americans. Opportunity for change also carries risk, however. Through the Zero Emission Research Opportunity (ZERO), FTA seeks to work with the public transportation industry to solve challenges, increase efficiency, and reduce the costs and risks of deploying zero emission vehicles in transit service.

In implementing ZERO, FTA intends to use a cooperative research model similar to FTA's successful National Fuel Cell Bus Program. Under this model, research and demonstration projects are defined and conducted by pre-selected non-profit third parties (non-profit consortia as defined in 49 U.S.C. Section 5312(e)(2)(B)) that, under FTA direction, assemble and manage teams of departments, agencies, and instrumentalities of the Federal Government, including federal laboratories; state and local governmental entities; providers of public transportation; private or non-profit organizations; institutions of higher education; and technical and community colleges. The model introduces an enhanced level of research management, program continuity, and flexibility to federally-funded transit research. It also provides a higher degree of innovation and resiliency, resulting in more successful projects. Through ZERO, FTA seeks to refine this research model with the goal of creating a research environment which results in greater industry involvement and more innovative and successful projects.

2. Scope

The purpose of ZERO is to work with U.S. industry to remove obstacles on the critical path to the wider adoption of zero emission technology in public transportation. Examples include improving charging standards for battery-electric transit vehicles, improved passenger compartment heating systems, or expanding hydrogen infrastructure. For purposes of this program, zero emission technology refers to any technology that provides a pathway to the immediate or eventual adoption of transit vehicles that produce no harmful emissions in any, and all, operating modes. Battery-electric and hydrogen fuel cell technology are typical examples. Not all pathways to zero emission vehicles have to be zero emission, but they have to be shown to be on an evolutionary pathway to zero emission. For example, hybrid technology is considered zero emission technology for the purposes of this program if it can be shown to advance the pathway to improved vehicle electrification.

This program focuses on one aspect of transportation emissions — those of systems under the control of a typical domestic transit agency, such as vehicles and fueling or charging systems. With the exception of applications such as solar panels on a maintenance garage roof, emissions from energy production are not targeted in this program. Programs addressing the emissions of energy production are carried out by the Department of Energy (DoE) and the Environmental Protection Agency (EPA). FTA coordinates with the DoE and EPA to eliminate duplication of effort and to ensure strategic consistency.

The projects under ZERO may address aspects of the following subject areas:

- a. Technology Research and Development – improving the efficiency, reducing costs, and improving the performance of vehicles, vehicle systems, and subsystems.
- b. Transit Fleet Operations – improving the efficiency, reducing costs, and improving the performance of vehicle fleets including maintenance and operations practices.
- c. Energy Infrastructure – addressing challenges of supporting zero emission technology including hydrogen fueling, electric charging, and relationships with suppliers and electric utilities.
- d. Standards and Policy – research to support standards development and testing protocols and to identify policies and policy changes to reduce costs and risks of adopting zero emission vehicle technology.
- e. Other – FTA is open to considering other research subjects or combinations of subjects to advance zero emission technology.

B. Federal Award Information

Section 5312 of title 49, United States Code (Section 5312), authorizes FTA's Public Transportation Innovation program. Through this program, FTA may make grants, or enter into contracts, cooperative agreements and other agreements for research, development, demonstration and deployment projects, and evaluation of research and technology of national significance to public transportation that the Secretary of Transportation determines will improve public transportation.

ZERO is funded under Section 5312 program authority. A total of \$2.75 million in funds from FY 2014 and 2015 appropriations are available for awards under this announcement. FTA intends to award multiple projects under this announcement.

FTA may, at its discretion, provide additional funds for selections made under this announcement or for additional meritorious proposals from funds made available for 49 U.S.C. Section 5312.

C. Eligibility Information

1. Eligible Applicants

Eligible applicants and recipients under this program are limited to non-profit organizations leading a consortium of entities as listed below. All consortia must include at least one provider of public transportation. As defined in Section 5312, the following entities may be part of a consortium:

- a. Departments, agencies, and instrumentalities of the Federal Government, including Federal laboratories;
- b. State and local governmental entities;
- c. Providers of public transportation;
- d. Private or non-profit organizations;
- e. Institutions of higher education; and
- f. Technical and community colleges.

2. Cost Sharing or Matching

The federal share of project costs under this program is limited to 80 percent. Applicants may seek a lower Federal contribution. The applicant must provide the required local share in cash or in-kind, and must document in its application the source of

the local share. Eligible sources of local share are detailed in FTA Research Circular 6100.1E. (available at http://www.fta.dot.gov/legislation_law/12349_16434.html).

3. Eligible Projects

Eligible projects include those defined under 49 U.S.C. Section 5312(c), (d), and (e) that will build on successful research, innovation, and development efforts to facilitate the deployment of low or no emission vehicles, zero emission vehicles, or associated advanced technology.

Each consortium may propose up to three projects in its application. These are projects the consortium proposes for the first iteration of Federal funding under ZERO. For projects requesting more than \$500,000, proposals should include one or more alternative funding schedules allowing the project to be funded incrementally in anticipation of additional future funding. However, given that future funding is not guaranteed, project proposals must provide meaningful deliverables for this first iteration of funding. The proposed projects must advance zero emission technology in public transportation by addressing one or more of the following subject areas:

- a. Technology Research and Development – improving the efficiency, reducing costs, and improving the performance of vehicles, vehicle systems, and subsystems.
- b. Transit Fleet Operations – improving the efficiency, reducing costs, and improving the performance of vehicle fleets including maintenance and operations practices.

- c. Energy Infrastructure – addressing challenges of supporting zero emission technology including hydrogen fueling, electric charging, and relationships with suppliers and electric utilities.
- d. Standards and Policy – research to support standards development and testing protocols and to identify policies and policy changes to reduce costs and risks of adopting zero emission vehicle technology.
- e. Other – FTA is open to considering other research subjects or combinations of subjects to advance zero emission technology.

D. Application and Submission Information

1. Address and Form of Application Submission

Project proposals must be submitted electronically through GRANTS.GOV (www.grants.gov) by [INSERT DATE 90 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER]. Mail and fax submissions will not be accepted. A complete proposal submission will consist of at least two files: (1) the SF-424 Mandatory form (downloaded from GRANTS.GOV) and (2) the Applicant and Proposal Profile for the “Zero Emission Research Opportunity” (ZERO Supplemental Form) found on GRANTS.GOV and the FTA Web site by clicking (or copying and pasting) the ZERO Program link at www.transit.dot.gov/funding/grants/grant-programs/zero-emission-research-opportunity-ZERO. The Supplemental Form provides guidance and a consistent format for proposers to respond to the criteria outlined in this NOFO.

2. Content and Form of Application Submission

a. Proposal Submission

A complete proposal submission consists of two forms: the SF-424 Mandatory Form, and the ZERO Supplemental Form. FTA will evaluate only complete applications.

The Supplemental Form must be placed in the attachments section of the SF-424 Mandatory Form. Proposers must use the Supplemental Form designated for ZERO and attach it to the submission in GRANTS.GOV to successfully complete the application process.

A proposal submission may contain additional supporting documentation as attachments. If an applicant elects to attach an additional narrative, it must not exceed 10 numbered pages. Submissions must be presentable and use standard fonts, font sizing, and at least one-inch margins so reviewers can easily read the information.

Within 48 hours after submitting an electronic application, the applicant should receive three email messages from GRANTS.GOV: (1) confirmation of successful transmission to GRANTS.GOV, (2) confirmation of successful validation by GRANTS.GOV, and (3) confirmation of successful validation by FTA. If confirmations of successful validation are not received or a notice of failed validation or incomplete materials is received, the applicant must address the reason for the failed validation, as described in the email notice, and resubmit before the submission deadline. If making a resubmission for any reason, include all original attachments regardless of which attachments were updated and check the box on the Supplemental Form indicating this is a resubmission.

FTA urges proposers to submit applications at least 72 hours prior to the due date to allow time to receive the validation messages and to correct any problems that may have caused a rejection notification. FTA will not accept submissions after the stated deadline. GRANTS.GOV scheduled maintenance and outage times are announced on the GRANTS.GOV website. Deadlines will not be extended due to scheduled website maintenance.

Proposers are encouraged to begin the process of registration on the GRANTS.GOV site well in advance of the submission deadline. Registration is a multi-step process, which may take several weeks to complete before an application can be submitted. Registered proposers may be required to take steps to keep their registration up to date before submissions can be made successfully: (1) registration in the System for Award Management (SAM) is renewed annually; and, (2) persons making submissions on behalf of the Authorized Organization Representative (AOR) must be authorized in GRANTS.GOV by the AOR to make submissions. Instructions on the GRANTS.GOV registration process are provided in the Appendix.

Information such as the proposer's name, Federal amount requested, local match amount, description of areas served, etc. may be requested in varying degrees of detail on both the SF-424 form and Supplemental Form. Proposers must fill in all fields unless stated otherwise on the forms. The Supplemental Form template supports pasting copied text with limited formatting from other documents; applicants should verify that pasted text is fully captured on the Supplemental Form and has not been truncated by the character limits built into the form. Proposers should use both the "Check Package for Errors" and the "Validate Form" validation buttons on both forms to check all required

fields on the forms, and ensure that the Federal and local amounts specified are consistent.

b. Application Content

The SF-424 Mandatory Form and the Supplemental Form will prompt applicants for the required information, including the:

- (i) Applicant name;
- (ii) Dun and Bradstreet (D&B) Data Universal Numbering System (DUNS) number if available. (Note: If selected, the applicant will be required to provide its DUNS number prior to award);
- (iii) Key contact information including contact name, address, e-mail address, and phone number;
- (iv) Congressional district(s) of the applicant;
- (v) A list of consortium organizational members, by organization name and address;
- (vi) Documentation of membership of each organizational member of the consortium (e.g., memorandum of understanding, letter of commitment, or other documentation);
- (vii) A schedule outlining steps and milestones for each project;
- (viii) A detailed description of the consortium's project experience, providing details of the projects the consortium has led and how those details support the evaluation criteria;

- (ix) A detailed description of the consortium's experience working with zero emission technology and any related technology;
- (x) A detailed description of the consortium's public transportation experience;
- (xi) A detailed description of the consortium's experience working with the Federal research programs;
- (xii) A detailed description of the consortium's experience functioning as a research organization;
- (xiii) Descriptions of up to three proposed projects, including project deliverables, schedule and budget; and
- (xiv) A detailed description of technical, financial and legal capacity to administer the proposed projects.

Applicants may also support their applications by including an example of a statement of work, budget, or project plan from an existing or previously funded research project.

c. Unique Entity Identifier and System for Award Management (SAM)

Registration can take as little as 3-5 business days, but since there could be unexpected steps or delays (for example, if the applicant needs to obtain an Employer Identification Number), FTA recommends allowing ample time, up to several weeks, for completion of all steps.

STEP 1: Obtain DUNS Number

If requested by phone (1-866-705-5711) DUNS is provided immediately.

If your organization does not have one, you will need to go to the Dun & Bradstreet Web site at <http://fedgov.dnb.com/webform> to obtain the number. *Information for Foreign Registrants. *Webform requests take 1-2 business days.

STEP 2: Register with SAM

If you already have an Employer Identification Number, your SAM registration will take 3 to 5 business days to process. If you are applying for an Employer Identification Number please allow up to two weeks. Ensure that your organization is registered with the System for Award Management (SAM). If your organization is not registered, an authorizing official of your organization must register at www.sam.gov.

STEP 3: Username & Password

Complete your AOR (Authorized Organization Representative) profile on GRANTS.GOV and create your username and password. You will need to use your organization's DUNS Number to complete this step.

<https://apply07.grants.gov/apply/OrcRegister>.

STEP 4: AOR Authorization

The E-Business Point of Contact (E-Biz POC) at your organization must login to GRANTS.GOV to confirm you as an Authorized Organization Representative (AOR). Please note that there can be more than one AOR for your organization. In some cases the E-Biz POC is also the AOR for an organization. *Time to complete this step depends on the responsiveness of your E-Biz POC.

STEP 5: Track AOR Status

At any time, you can track your AOR status by logging in with your username and password. Login as an Applicant (enter your username & password you obtained in Step 3) using the following link: [applicant_profile.jsp](#).

d. Submission Dates and Times

Project proposals must be submitted electronically through GRANTS.GOV by [INSERT DATE 90 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER]. Mail and fax submissions will not be accepted.

e. Funding Restriction

FTA will issue specific guidance to recipients regarding pre-award authority at the time of selection. FTA does not provide pre-award authority for competitive funds until projects are selected and even then there are Federal requirements that must be met before costs are incurred. Preparation of proposals is not an eligible pre-award expense.

E. Application Review

1. Evaluation Criteria

FTA will use the following criteria when evaluating applications:

- a. **Project Experience** – Consortia will be evaluated based on their experience and track record in designing, leading and executing transportation research or demonstration projects. The applicant must demonstrate the experience and ability to bring together both private and public industry partners to design and execute research or demonstration projects with multi-million dollar budgets.

- b. Technology experience – Consortia will be evaluated based on their knowledge and experience working with zero emission technology, including in various public transportation modes.
- c. Public transportation experience – Consortia will be evaluated based on their experience and ability working with U.S. public transportation agencies, and in the field of public transportation. Applicants should name the public transportation agencies they have worked with in their applications.
- d. Federal Research or Demonstration Experience – Consortia will be evaluated based on their experience and ability managing Federal research or demonstration projects, and understanding and meeting Federal requirements.
- e. Organizational Experience – Consortia will be evaluated based on their experience operating as a team with regard to the above areas. Where some consortia may have member organizations with experience and expertise, the expertise and experience of the consortium as a team working together is also important. This criterion addresses this issue.
- f. Proposed Projects (A consortium may submit up to three proposed projects)
Applications will be evaluated based on the following:
 - (i) The extent to which the proposed projects will advance zero emission technology in public transportation applications, and
 - (ii) The effectiveness of the proposed project in advancing zero emission technology relative to the amount of FTA investment.

2. Review and Selection Process

FTA staff will comprise the technical evaluation committee and will review applications against the described evaluation criteria. The technical evaluation committee reserves the right to evaluate proposals it receives and to seek clarification from any proposer about any statement that is made in a proposal that FTA finds ambiguous. FTA may also request additional documentation or information to be considered during the evaluation process. After the evaluation of all eligible proposals, the technical evaluation committee will provide recommendations to the FTA Administrator or designee. The FTA Administrator or designee will determine the final list of consortia and the amount of funding for each consortium's proposed projects. FTA may choose to fund some, all, part, or none of a selected consortium's proposed projects. To better evaluate technologies in a variety of conditions and locales, FTA may select a portfolio of geographically diverse projects.

F. Federal Award Administration

1. Federal Award Notice

Subsequent to an announcement by the FTA Administrator or designee of the final project selections posted on FTA's website, FTA will publish a list of the selected projects, including Federal dollar amounts and recipients.

All information submitted as part of or in support of a ZERO application shall use publicly available data or data that can be made public and methodologies that are accepted by industry practice and standards, to the extent possible. If the submission includes information the applicant considers to be trade secret or confidential commercial or financial information, the applicant should do the following: (1) On the Supplemental

Form, on every relevant page, select the button to affirm that the submission “Contains Confidential Business Information (CBI);” (2) On any other documentation, mark each affected page “CBI;” and (3) highlight or otherwise denote the CBI portions. FTA protects such information from disclosure to the extent allowed under applicable law. In the event FTA receives a Freedom of Information Act (FOIA) request for the information, FTA will follow the procedures described in the U.S. DOT FOIA regulations at 49 CFR part 7. Only information that ultimately is determined to be confidential under the regulations will be exempt from disclosure under FOIA. Should FTA receive an order from a court of competent jurisdiction ordering the release of the information, FTA will provide the applicant timely notice of such order to allow the applicant the opportunity to challenge such an order. FTA will not challenge a court order on behalf of an applicant.

2. Award Administration

Successful proposals will be awarded funding through FTA’s Transit Award Management System (TrAMS) as Cooperative Agreements. The FTA Research Office will manage those Cooperative Agreements. Apart from the specific terms and conditions within the Scope of Work, general terms and conditions for Grant Agreements and Cooperative Agreements are found at www.transit.dot.gov.

Applicants must sign and submit current Certifications and Assurances before FTA may award funding under a Cooperative Agreement for a competitively selected project. If the applicant has already submitted its annual Certifications and Assurances for the

fiscal year in which the award will be made in TrAMS, it does not need to be resubmitted.

To enhance the value of the portfolio of the projects to be implemented, FTA reserves the right to request an adjustment of the project scope and budget of any proposal selected for funding. Such adjustments shall not constitute a material alteration of any aspect of the proposal that influenced the proposal evaluation or decision to fund the project.

3. Administrative and National Policy Requirements

Except as otherwise provided in this NOFO, cooperative agreements are subject to the requirements of 49 U.S.C. 5312 as described in the latest FTA Research Circular, currently 6100.1E, “Research, Technical Assistance and Training Program: Application Instructions and Program Management Guidelines.” In particular, the recipient(s) of a ZERO award must submit quarterly Federal Financial Reports and Milestone Progress Reports in TrAMS.

4. Reporting, Data and Information Exchange, and Data Requirements

In order to achieve a comprehensive understanding of the impacts and implications of ZERO, FTA, or its designated independent evaluator, will require direct access to project data. Projects should include a data capture component that allows for the reliable and consistent collection of information relevant to gauging the impact and outcomes of the project.

At any time during the period of performance, the project team may be requested to coordinate data collection activities in order to provide interim information under the requirements of this award. A project team may be asked to provide the data directly to FTA or to a designated independent evaluator. This information, if requested, will be used to conduct program evaluations during the execution of the project and after it has been completed.

G. Federal Awarding Agency Contacts

For further information concerning this NOFO please contact the ZERO staff via email at ZERO.FTA@dot.gov, or call Sean Ricketson at 202-366-6678. A TDD is available for individuals who are deaf or hard of hearing at 1-800-877-8339. In addition, FTA will post answers to questions and requests for clarifications on FTA's website at <https://www.transit.dot.gov/about/research-innovation/ZERO>. To ensure applicants receive accurate information about eligibility or the program, the applicant is encouraged to contact DOT directly with questions, rather than through intermediaries or third parties. DOT staff may also conduct briefings on the ZERO selection and award process upon request.

H. Other Information

The applicant must assure that it will comply with all applicable Federal statutes, regulations, executive orders, FTA Circulars, and other Federal administrative requirements in carrying out any project supported by the FTA agreement. The applicant must acknowledge that it is under a continuing obligation to comply with the terms and conditions of the Cooperative Agreement it executes with FTA for its project. The

applicant must acknowledge that it understands that Federal laws, regulations, policies, and administrative practices might be modified from time to time and may affect the implementation of the project. The applicant must agree that the most recent Federal requirements will apply to the project, unless FTA issues a written determination otherwise.

Issued in Washington, DC, this sixteenth day of November, 2016.

Matthew Welbes
Executive Director

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